Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A cartridge for use in a Surface Plasmon Resonance sensor, the cartridge comprising an optical element having a first surface and a mounting member for supporting a sensing agent located on a second surface of the optical element, the first surface comprising a first means for directing a beam of light incident on the optical element towards the second surface at an angle of incidence to the second surface that results in substantially total internal reflection of the beam of light at an interface of the mounting member and the second surface wherein the cartridge further comprises a detachable channel suitable for containing a fluid sample to be tested.

2. (Original) A cartridge as claimed in Claim 1 wherein the channel locates on the second surface of the cartridge such that the fluid sample contained within the channel makes physical contact with the sensing agent.

3. (Currently Amended) A cartridge as claimed in Claim 1 ~~or Claim 2~~ wherein the optical element further comprises a third surface for the exit of beam of light from the optical element wherein the third surface includes a second means for directing the beam of light.

4. (Currently Amended) A cartridge as claimed in ~~any of the preceding Claims~~Claim 1 wherein the optical element comprises a material having a first dielectric constant while the mounting member comprises a material having a second dielectric constant wherein the second dielectric constant is of an opposite sign to that of the first dielectric constant.

5. (Currently Amended) A cartridge as claimed in ~~any of the preceding Claims~~Claim 1 wherein the first means for directing the light beam comprises a focusing element for focusing the beam of light to a line at the interface of the mounting member and the second surface.

6. (Currently Amended) A cartridge as claimed in ~~any of Claims 3 to 5~~Claim 3 wherein the second means for directing the light beam comprises a defocusing element.

7. (Currently Amended) A cartridge as claimed in ~~any of the preceding Claims~~Claim 1 wherein the mounting member comprises a metal.

8. (Currently Amended) A cartridge as claimed in ~~any of the preceding Claims~~Claim 1 wherein the optical element comprises an injection moulded plastic material.

9. (Currently Amended) A cartridge as claimed in ~~any of the preceding Claims~~Claim 1 wherein the sensing agent comprises one or more antibodies each antibody being suitable for binding a pathogen.

10. (Original) A cartridge as claimed in Claim 9 wherein the bound pathogen is selected from the group comprising Legionella, Escherichia coli, Salmonella, Bacillus Anthracis, Yersinia Pestis, Lysteria, Cryptosporidium, Variola virus, Picomaviridae Apthovirus, Filoviruses, any plasticiser, steroid, medicinal drug or illicit substance or any other known fluid borne bacterium.

11. (Currently Amended) A cartridge as claimed in Claim 9 ~~or Claim 10~~ wherein a protein substrate and a ligand is employed to bind a biotinylated antibody to the metal.

12. (Original) A cartridge as claimed in Claim 11 wherein the protein substrate comprises biotin.

13. (Currently Amended) A cartridge as claimed in Claim 11 ~~or Claim 12~~ wherein the ligand comprises a protein selected from the group comprising avidin, strepavidin and neutravidin.

14. (Currently Amended) A Surface Plasmon Resonance sensor comprising a light source for generating a beam of light, a cartridge as claimed in ~~any of Claims 1 to 13~~Claim 1, and a light beam detection means wherein the employment of the cartridge allows for the miniaturisation of the sensor.

15. (Original) A Surface Plasmon Resonance sensor as claimed in Claim 14 wherein the light source comprises a diode laser.

16. (Currently Amended) A Surface Plasmon Resonance sensor as claimed in Claim 14 ~~or Claim 15~~ wherein the light beam detection means comprises a detector and a data processing means.

17. (Original) A method of field detection of one or more pathogens that comprising the steps of:

1) Selecting an appropriate cartridge for the detection of one or more pathogens for use in a Surface Plasmon Resonance sensor;

2) Calibrating the Surface Plasmon Resonance sensor; and

3) Testing a fluid sample for the presence of one or more of the pathogens;

18. (Original) A method of field detection of one or more pathogens as claimed in Claim 17 wherein the selection of the appropriate cartridge comprises locating the cartridge with one or more appropriate antibodies for binding with the one or more pathogens.

19. (Currently Amended) A method of field detection of one or more pathogens as claimed in Claim 17 ~~or Claim 18~~ wherein calibration of the Surface Plasmon Resonance sensor comprises:

1) Irradiating a mounting member with a beam of light in the absence of the fluid sample; and

2) Detecting a component of the beam of light reflected from the mounting member and storing the data as a reference signal;

20. (Currently Amended) A method of field detection of one or more pathogens as claimed in Claim 17 ~~to Claim 19~~ wherein the testing of a fluid sample for the presence of one or more pathogens comprises:

1) Locating the fluid sample with respect to a channel;

2) Connecting the channel to the cartridge;

3) Irradiating the fluid sample with the beam of light;

4) Detecting the beam of light reflected from the mounting member and storing the data as a sample signal; and

5) Comparing the sample signal with the reference signal.